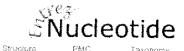
# **EXHIBIT 1**





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Books

Display GenBank(Full) - Show 5

Projection on the feature (#6841)

Send to 4

Show whole Sequence

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Features:

Details

Limits

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☐ 1: BA000043. Reports Geobacillus kaust...[gi:56378377]

Links

#### Features Seguence

LOCUS

BA000043 1137 bp DNA BCT 04-DEC-2004 linear DEFINITION Geobacillus kaustophilus HTA426 DNA, complete genome. BA000043 REGION: 1613..2749 ACCESSION VERSION BA000043.1 GI:56378377 KEYWORDS Geobacillus kaustophilus HTA426 SOURCE ORGANISM Geobacillus kaustophilus HTA426 Bacteria; Firmicutes; Bacillales; Bacillaceae; Geobacillus. REFERENCE AUTHORS Takami, H., Takaki, Y., Chee, G.J., Nishi, S., Shimamura, S., Suzuki, H., Matsui, S. and Uchiyama, I. Thermoadaptation trait revealed by the genome sequence of TITLE thermophilic Geobacillus kaustophilus JOURNAL. (er) Nucleic Acids Res. 32 (21), 6292-6303 (2004) PUBMED 15576355 REFERENCE (bases 1 to 1137) Takami, H., Takaki, Y. and Chee, G. AUTHORS TITLE Direct Submission JOURNAL Submitted (25-JUN-2003) Hideto Takami, Japan Marine Science and Technology Center, Microbial Genome Analysis Research Group; 2-15 Natsushima-cho, Yokosuka, Kanagawa 237-0061, Japan (E-mail:takamih@jamstec.go.jp, URL:http://www.jamstec.go.jp/jamstec-e/bio/exbase.html, Tel:81-46-867-9643, Fax:81-46-867-9645) **FEATURES** Location/Qualifiers source 1..1137 /organism="Geobacillus kaustophilus HTA426" /mol type="genomic DNA" /strain="HTA426" /isolation\_source="isolated from the deepest Ocean" /db xref="taxon:235909" /note="thermophile" gene 1..1137 /gene="dnaN" /locus\_tag="GK0002" CDS 1..1137 /gene="dnaN" /locus tag="GK0002" /EC number="2.7.7.7" /codon\_start=I /transl\_table=11 /product="DNA-directed DNA polymerase III beta subunit" /protein\_id="BAD74287.1" /db xref="GI:56378379" /translation="MNISIDREALAKSVQDVMKAVSTRTTIPILTGIKLTATASGVTL TGSDSDISIESFIPLEKEGKLLVDVKRPGSIVLQARFFSEIVKKLPQQTVEIETEDNF LTIIRSGHSEFRLNGLNADEYPRLPQIEEENVFQIPADLLKTVIRQTVFAVSTSETRP

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Jul 24 2006 17 22,14

Books



Limits



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History

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Details

Go

Display GenBank(Full) & Show 5 Projection on the feature (#5043)

Send to Show whole Sequence

Features:

Refresh

☐1: NC\_006274. Reports Bacillus cereus E...[gi:52140164]

Links

### Comment Features Sequence

LOCUS NC 006274 1140 bp DNA linear BCT 03-DEC-2005 Bacillus cereus E33L, complete genome. DEFINITION ACCESSION NC 006274 REGION: 1927..3066 VERSION NC 006274.1 GI:52140164 PROJECT GenomeProject: 12468 KEYWORDS SOURCE Bacillus cereus E33L ORGANISM Bacillus cereus E33L Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus; Bacillus cereus group. REFERENCE (bases 1 to 1140) AUTHORS Brettin, T.S., Bruce, D., Challacombe, J.F., Gilna, P., Han, C., Hill, K., Hitchcock, P., Jackson, P., Keim, P., Longmire, J., Lucas, S., Okinaka, R., Richardson, P., Rubin, E. and Tice, H. TITLE Complete genome sequence of Bacillus cereus E33L JOURNAL Unpublished REFERENCE 2 (bases 1 to 1140) CONSRIM NCBI Genome Project TITLE Direct Submission JOURNAL Submitted (16-SEP-2004) National Center for Biotechnology Information, NIH, Bethesda, MD 20894, USA REFERENCE (bases 1 to 1140) AUTHORS Brettin, T.S., Bruce, D., Challacombe, J.F., Gilna, P., Han, C., Hill, K., Hitchcock, P., Jackson, P., Keim, P., Longmire, J., Lucas, S., Okinaka, R., Richardson, P., Rubin, E. and Tice, H. TITLE Direct Submission Submitted (14-JUL-2004) Joint Genome Institute, Department of JOURNAL Energy, 2800 Mitchell Drive, Walnut Creek, CA 94598, USA COMMENT PROVISIONAL REFSEC: This record has not yet been subject to final NCBI review. The reference sequence was derived from <a href="CP000001">CP0000001</a>. COMPLETENESS: full length. **FEATURES** Location/Qualifiers source 1..1140 /organism="Bacillus cereus E33L" /mol\_type="genomic DNA" /strain="E33L" /isolation source="dead zebra carcass" /db xref="taxon:288681"

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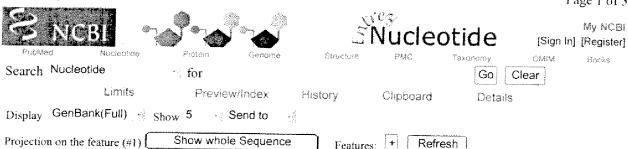
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Jul 24 2006 17 22:14



Features:

# ☐1: NC\_005957. Reports Bacillus thuringi...[gi:49476684]

Links

# Comment Features Sequence

Locus	NC_005957 1140 bp DNA linear BCT 03-APR-2006
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ACCESSION	NC 005957 REGION: 19283067
VERSION	NC 005957.1 GI:49476684
PROJECT	GenomeProject: 10877
KEYWORDS SOURCE	
ORGANISM	Bacillus thuringiensis serovar konkukian str. 97-27
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	Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus; Bacillus cereus group.
REFERENCE	1 (bases 1 to 1140)
AUTHORS	Brettin, T.S., Bruce, D., Challacombe, J.F., Gilna, P., Han, C.,
	Hill, K., Hitchcock, P., Jackson, P., Keim, P., Longmire, J., Tugan C.
	OKINAKA, K., Kichardson, P., Rubin, E. and Tice H
TITLE	Complete genome sequence of Bacillus thuringiensis 97-22
JOURNAL REFERENCE	Unpublished
CONSRIM	2 (bases 1 to 1140) NCBI Genome Project
TITLE	Direct Submission
JOURNAL	Submitted (11-SEP-2004) National Center for Biotechnology
	Information, NIH, Bethesda, MD 20894, USA
REFERENCE	3 (bases 1 to 1140)
AUTHORS	Brettin, T.S., Bruce, D., Challacombe, J.F., Gilna, P., Han, C.,
	Hill, K., Hitchcock, P., Jackson, P., Keim, P., Longmire, J., Lucas, S.,
TITLE	Okinaka, R., Richardson, P., Rubin, E. and Tice, H. Direct Submission
JOURNAL	Submitted (07-JUN-2004) Joint Genome Institute, Department of
	Energy, 2800 Mitchell Drive, Walnut Creek, CA 94598, USA
COMMENT	FROVISIONAL REFSEQ: This record has not vet been subject to final
	NUBL review. The reference sequence was derived from 15117755
	Bacillus thuringiensis 97-27 (subsp. konkukjan (serotype #34)) was
	originally isolated from a case of severe human tissue recrosic
	(Bacillus thuringiensis subsp. konkukian (serotype H34)
	superinfection: Case report and experimental evidence of
	pathogenicity in immunosupporessed mice. Hernandez, E, Ramisse, F, Ducoureau, J-P, Cruel, T, and Cavallo, J-D. J Clin Microbiol 1998
	36(7):2138-2139). B. thuringiensis is indigenous to many habitats
	workdwide; these include soil, insects, decidious and coniferous
	reaves (Prediction of insecticidal activity of Recillus
	thuringiensis strains by polymerase chain reaction product
	profiles. Carozzi, NB, Kramer, VC, Warren, GW, Evola, S, and
	Koziel, MG. Appl Environ Microbiol. 1991 57(11):3057-61). B.
	thuringiensis is an insect pathogen that is widely used as a biopesticide in commercial agriculture. Infection of humans is
	unusual. The apparent pathogenic properties of B. thuringiensis
	97-27 are very unusual for B. thuringiensis; unlike most B.
•	

thuringiensis isolates, this isolate is very closely related to B. anthracis based on phylogenetic analysis (Fluorescent amplified fragment length polymorphism analysis of Bacillus anthracis, Bacillus cereus, and Bacillus thuringiensis isolates. Hill, KK, Ticknor, LO, Okinaka, RT, Asay, M, Blair, H, Bliss, KA, Laker, M, Pardington, PE, Richardson, AP, Tonks, M, Beecher, DJ, Kemp, JD, Kolsto, A-B, Wong, ACL, Keim, P, and Jackson, PJ. Appl Environ Microbiol 70(2):1068-1080. Plasmid and fosmid libraries were prepared at the Joint Genome Institute in Los Alamos (JGI-LANL), NM. Shotgun sequencing was performed at the JGI Production Genomics Facility (JGI-PGF) in Walnut Creek, CA to a coverage of 24x. Finishing was performed at JGI-LANL starting with 83 contigs and 16 scaffolds. Repetitive regions were identified, assembled and finished by manually checking paired reads close to each repeat in the assembly with consed and then making a subassembly for each repetitive region. Fifty five gaps were closed with primer walks and 16 by PCR. Gene predictions were obtained using Glimmer and tRNAs were identified using tRNAScan-SE. Basic analysis of the gene predictions was performed by comparing coding sequences against the PFam, BLOCKS and Prodom databases. Gene definitions and functional classes were added manually by a team of annotators at JGI-LANL, using BLAST results in addition to information from the basic analysis. A total of 5540 features have been annotated on the sequence record. COMPLETENESS: full length.

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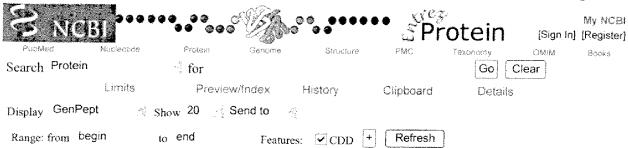
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Jul 24 2006 17 22 14



# 1: EAR74115. Reports DNA polymerase II...[gi:89154071]

BLink, Conserved Domains, Links

### Comment Features Sequence

LOCUS DEFINITION ACCESSION VERSION	EAR74115.1 GI:89154071
DBSOURCE KEYWORDS SOURCE	accession AAOY01000054.1 Bacillus weihenstephanensis KBAB4
ORGANISM REFERENCE	Bacillus weihenstephanensis KBAB4 Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus; Bacillus cereus group.  1 (residues 1 to 381)
AUTHORS	Lapidus, A., Goltsman, E., Copeland, A., Lucas, S., Barry, K., Detter, J.C., Glavina del Rio, T., Hammon, N., Israni, S., Dalin, E., Tice, H., Bruce, D., Pitluck, S., Richardson, P., Auger, S., Galleron, N., Sanchis, V., Gohar, M., Broussole, V., Brillard, J., Guinebretiere, MH., Ehrlich, S.D., Lereclus, D., Aymerich, S., Nguen-the, C. and Sorokin, A.
CONSRTM TITLE	US DOE Joint Genome Institute (JGI-PGF) Sequencing of the draft genome and assembly of Bacillus
JOURNAL	weihenstephanensis KBAB4 Unpublished
REFERENCE	2 (residues 1 to 381)
AUTHORS	Larimer, F. and Land, M.
CONSRIM	US DOE Joint Genome Institute (JGI-ORNL)
TITLE	Annotation of the draft genome assembly of Bacillus weihenstephanensis KBAB4
JOURNAL	Unpublished
REFERENCE	3 (residues 1 to 381)
AUTHORS	Lapidus, A., Goltsman, E., Copeland, A., Lucas, S., Barry, K., Detter, J.C., Glavina del Rio, T., Hammon, N., Israni, S., Dalin, E., Tice, H., Bruce, D., Pitluck, S., Richardson, P., Auger, S., Galleron, N., Sanchis, V., Gohar, M., Broussole, V., Brillard, J., Guinebretiere, MH., Ehrlich, S.D., Lereclus, D., Aymerich, S., Nuguen-the, C. and Sorokin, A.
CONSRTM TITLE	US DOE Joint Genome Institute (JGI-PGF)
JOURNAL	Direct Submission
COORGIN	Submitted (02-MAR-2006) US DOE Joint Genome Institute, 2800 Mitchell Drive Bl00, Walnut Creek, CA 94598-1698, USA
COMMENT	URL http://www.jgi.doe.gov Contact: Paul Richardson (microbes@cuba.jgi-psf.org)
	Draft sequencing done at US DOE Joint Genome Institute
	Source DNA and bacteria available from Alexei Sorokin
	(alexei.scrokine@jouy.inxa.fr)
	The JGI and collaborators endorse the principles for the
	distribution and use of large scale sequencing data adopted by the larger genome sequencing community and urge users of this data to

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follow them. It is our intention to publish the work of this
              project in a timely fashion and we welcome collaborative
              interaction on the project and analysis.
              (http://www.genome.gov/page.cfm?pageID=10506376)
              Notes:
              Bacillus weihenstephanensis KBAB4 was originally isolated from
              forest soil near Versailles, France, and was originally identified
              as Bacillus cereus (Vilas-Boas et al. Appl Env Microbiol, 2002, 68,
              1414). More detailed phylogenetic analysis, using MLST, of the
              Versailles Collection of B. cereus and B. thuringiensis strains
              revealed that the strain grows at low temperature (60C) and
             clusters with many other strains able to grow at low temperatures,
             including the independently isolated and characterized strains
             WSBC10204 and WSBC10206 (Sorokin et al, Appl Env Microbiol, 2006,
             72, 1569). The latter two strains are the type strains of a newly
             recognized species in the B. cereus group able to grow in cold and
             having the species name Bacillus weihenstephanensis (Lechner et al,
             Int. J. Syst. Bacteriol, 1998, 48, 1373). Since, by MLST, KBAB4 is
             very closely related to WSBC10204 and represents many other
             psychrotrophic strains, it was assigned a species name Bacillus
             weihenstephanensis and the strain KBAB4 should also be considered
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             Method: conceptual translation.
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     361 flirtvndds iiqlilpvrt y
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301 34 2006 17 22 14

 $http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve\&db=Protein\&list\_uids=89154071\&...\ \ 7/28/2006$ 





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Display GenBank(Full) - Show 5 - Send to

Projection on the feature (#2)

TITLE

Direct Submission

Show whole Sequence

Features:

Refresh

1: NC\_000964. Reports Bacillus subtilis...[gi:50812173]

Links

## Comment Features Sequence

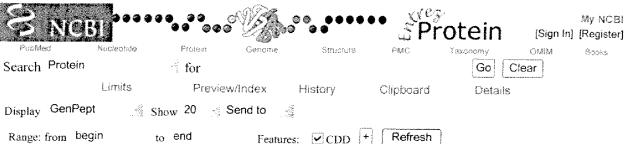
LOCUS NC 000964 1137 bp DNA linear BCT 02-DEC-2005 DEFINITION Bacillus subtilis subsp. subtilis str. 168, complete genome. NC 000964 REGION: 1939..3075 ACCESSION VERSION NC 000964.2 GI:50812173 PROJECT GenomeProject:76 KEYWORDS complete genome. SOURCE Bacillus subtilis subsp. subtilis str. 168 ORGANISM Bacillus subtilis subsp. subtilis str. 168 Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus. REFERENCE 1 (bases 1 to 1137) Kunst, F., Ogasawara, N., Moszer, I., Albertini, A.M., Alloni, G., AUTHORS Azevedo, V., Bertero, M.G., Bessieres, P., Bolotin, A., Borchert, S., Borriss, R., Boursier, L., Brans, A., Braun, M., Brignell, S.C., Bron, S., Brouillet, S., Bruschi, C.V., Caldwell, B., Capuano, V., Carter, N.M., Choi, S.K., Codani, J.J., Connerton, I.F., Cummings, N.J., Daniel, R.A., Denizot, F., Devine, K.M., Dusterhoft, A., Ehrlich, S.D., Emmerson, P.T., Entian, K.D., Errington, J., Fabret, C., Ferrari, E., Foulger, D., Fritz, C., Fujita, M., Fujita, Y., Fuma, S., Galizzi, A., Galleron, N., Ghim, S.Y., Glaser, P., Goffeau, A., Golightly, E.J., Grandi, G., Guiseppi, G., Guy, B.J., Haga, K., Haiech, J., Harwood, C.R., Henaut, A., Hilbert, H., Holsappel, S., Hosono, S., Hullo, M.F., Itaya, M., Jones, L., Joris, B., Karamata, D., Kasahara, Y., Klaerr-Blanchard, M., Klein, C., Kobayashi, Y., Koetter, P., Koningstein, G., Krogh, S., Kumano, M., Kurita, K., Lapidus, A., Lardinois, S., Lauber, J., Lazarevic, V., Lee, S.M., Levine, A., Liu, H., Masuda, S., Mauel, C., Medigue, C., Medina, N., Mellado, R.P., Mizuno, M., Moestl, D., Nakai, S., Noback, M., Noone, D., O'Reilly, M., Ogawa, K., Ogiwara, A., Oudega, B., Park, S.H., Parro, V., Pohl, T.M., Portetelle, D., Porwollik, S., Prescott, A.M., Presecan, E., Pujic, P., Purnelle, B., Rapoport, G., Rey, M., Reynolds, S., Rieger, M., Rivolta, C., Rocha, E., Roche, B., Rose, M., Sadaie, Y., Sato, T., Scanlan, E., Schleich, S., Schroeter, R., Scoffone, F., Sekiguchi, J., Sekowska, A., Seror, S.J., Serror, P., Shin, B.S., Solde, B., Sorokin, A., Tacconi, E., Takagi, T., Takahashi, H., Takemaru, K., Takeuchi, M., Tamakoshi, A., Tanaka, T., Terpstra, P., Tognoni, A., Tosato, V., Uchiyama, S., Vandenbol, M., Vannier, F., Vassarotti, A., Viari, A., Wambutt, R., Wedler, E., Wedler, H., Weitzenegger, T., Winters, P., Wipat, A., Yamamoto, H., Yamane, K., Yasumoto, K., Yata, K., Yoshida, K., Yoshikawa, H.F., Zumstein, E., Yoshikawa, H. and Danchin, A. TITLE The complete genome sequence of the gram-positive bacterium Bacillus subtilis Nature 390 (6657), 249-256 (1997) JOURNAL PUBMED 9384377 REFERENCE 2 (bases 1 to 1137) CONSRIM NCBI Genome Project

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Submitted (12-OCT-2001) National Center for Biotechnology
              Information, NIH, Bethesda, MD 20894, USA
  REFERENCE
              3 (bases 1 to 1137)
   AUTHORS
             Kunst, F., Ogasawara, N., Yoshikawa, H. and Danchin, A.
   TITLE
             Direct Submission
              Submitted (18-NOV-1997) Institut Pasteur, Regulation de
   JOURNAL
              l'Expression Genetique, 28 rue du Docteur Roux, Paris Cedex 15
              75724, France
 COMMENT
              PROVISIONAL REFSEC: This record has not yet been subject to final
             NCBI review. The reference sequence was derived from AL009126.
             On Jul 29, 2004 this sequence version replaced gi:16077068.
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> > Jul 24 2006 17:22 14



# ☐ 1: YP 089686. Reports DNA polymerase II...[gi:52783857]

BLink, Conserved Domains, Links

#### Comment Features Sequence

YP 089686

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   ORGANISM
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   AUTHORS
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             Ehrenreich, P., Baeumer, S., Henne, A., Liesegang, H., Merkl, R.,
             Ehrenreich, A. and Gottschalk, G.
   TITLE
             The complete genome sequence of Bacillus licheniformis DSM13, an
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  JOURNAL
             Unpublished
REFERENCE
             2 (residues 1 to 378)
  CONSRIM
             NCBI Genome Project
  TITLE
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  JOURNAL
             Submitted (28-SEP-2004) National Center for Biotechnology
             Information, NIH, Bethesda, MD 20894, USA
REFERENCE
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  AUTHORS
             Veith, B., Herzberg, C., Steckel, S., Feesche, J., Maurer, K.H.,
             Ehrenreich, P., Baeumer, S., Henne, A., Liesegang, H., Merkl, R.,
            Ehrenreich, A. and Gottschalk, G.
  TITLE
            Direct Submission
  JOURNAL
            Submitted (30-APR-2004) Institute of Microbiology and Genetics,
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            Grisebachstr. 8, Goettingen D-37077, Germany
COMMENT
            VALIDATED REFSEO: This record has undergone preliminary review of
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17
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